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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/649,427	08/28/2000	Scott G. Meikle	108298511US	7170

25096 7590 10/20/2003

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EXAMINER

VINH, LAN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 10/20/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/649,427

Applicant(s)

MEIKLE, SCOTT G.

Examiner

Lan Vinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003 :
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Continued Prosecution Application

1. The request filed on 9/8/2003 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/649427 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holmes et al (US 5,690,705) in view of Lund (US 5,791,969)

Holmes discloses a method of making a coated abrasives articles. This method comprises the steps of:

converting the binder precursor of thermosetting resin/claimed planarizing material into abrasive particles (col 1, lines 64-65; col 13, lines 15-17), which reads on separating a planarizing medium material into discrete elements

disposing the abrasive grits 112 /discrete elements on a binder film 114, the binder can include water or organic solvent (col 11, lines 16-17, col 13, lines 66-67; fig. 5), which reads on disposing the discrete element and a film support material on a support

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liquid. Fig. 5 of Holmes shows that the abrasive grits/ 112 spaced apart from each other and protruding/projecting from the binder film./support material

coating or placing the shaped abrasive particles onto the backing material (col 15, lines 27-30), removing the binder material (the binder can include water or organic solvent as recited in col 11, lines 16-17) from the carrier web/backing material (col 5, lines 14-16; fig. 2), which reads on moving the backing material away from the support liquid

Unlike the instant claimed invention as per claim 1, Holmes does not specifically disclose that the discrete elements/abrasive particles are configured to engage the microelectronic substrate and remove material from the microelectronic substrate although Holmes discloses using his abrasive particles as grinding aids (col 10, lines 45-46)

However, Lund discloses a method for polishing semiconductor wafer/ microelectronic substrate comprises the step of using polishing tape/backing material that has discrete elements/abrasive particles to engage the microelectronic substrate and remove material from the semiconductor substrate (col 5, lines 60-67, col 6, lines 1-5)

Hence, one skilled in the art would have found it obvious to have configured Holmes's abrasive particles/discrete element to engage the microelectronic substrate and remove material from the semiconductor substrate in view of Lund's teaching because Lund discloses that by applying polishing tape/backing material that has discrete

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elements/abrasive particles to the surface film of the semiconductor wafer polishes one surface of the wafer to a microscopically smooth surface (col 3, lines 51-55)

Regarding claims 2, 4, 21, Holmes discloses that the binder/planarizing material contains abrasive grits/plurality of abrasive particles (col 9, lines 45-46)

Regarding claim 3, fig. 5 of Holmes shows that binder layer 114/support material has a front and back/first and second surface

Regarding claim 5, Fig. 2 of Holmes shows the binder cursor (the binder can include water or organic solvent) in a hopper, which reads on the planarizing medium material is in a liquid phase. Holmes also discloses that the abrasive particles can be applied by drop coating (col 14, lines 1-2), which reads on forming discrete droplets of the planarizing material

Regarding claims 6, 10, 16, Holmes discloses curing the binder to form solidified binder (col 5, lines 1-2). Fig. 4 of Holmes shows the discrete element 112 having being wider at one portion

Regarding claims 7, 8 Holmes discloses that the size of the particles range from 0.1 to 500 microns (col 14, lines 47-49)

The limitations of claims 9, 11 have been discussed above

Regarding claim 12, Fig. 5 of Holmes shows the upper surface of the abrasive particles having round edges.

Regarding claims 13-15, Fig. Holmes discloses passing the binder precursor through an opening from the hopper onto the underlying support material 32

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Regarding claim 18, Holmes discloses removing the binder by water jet (col 5, lines 43-44)

Regarding claim 19, Holmes discloses that the support material 114 is binder (col 14, lines 1-2). Regarding claim 22, Holmes discloses forming precisely shaped abrasive particle (col 13, lines 44-45), which reads on buffed discrete element.

Regarding claim 23, Holmes discloses that the carrier web/backing material can contain a thin, water-soluble layer/film support material on the major surface to receive the bonder precursor and dissolving/removing the water-soluble layer on the carrier web (col 5, lines 18-25)

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 703 305-6302. The examiner can normally be reached on M-F 8:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 703 305-2667. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



LV

October 9, 2003